IN THE CLAIMS:

1.   (Currently Amended) A mobile terminal ~~for determining when a user should be stimulated toward an awake state~~, comprising:

a receiver ~~for receiving~~ configured to receive a sleep descriptor signal indicative of at least one sleep characteristic of a user ~~the user~~; and

a signal processing module ~~for processing~~ configured to process said sleep descriptor signal,

wherein said signal processing module is arranged to provide, at least partly in response to the sleep descriptor signal, a stimulation signal for stimulating a user toward an awake state, ~~and~~

wherein the mobile terminal is also ~~usable~~ configured for communication by the user in the awake state, and

wherein the mobile terminal is configured to handle an incoming call in such a manner as to prevent the user from being awakened, if the at least one sleep characteristic has indicated that the user is in a deep sleep, and otherwise to handle the incoming call in a different manner.

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7.   (Original) The mobile terminal of claim 1, further comprising a slumber indicator for indicating to at least one other person whether the user is awake or in a deep sleep or a shallow sleep, based at least partly on the at least one sleep characteristic.

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9.   CANCEL.

10.   (Original) The mobile terminal of claim 1, wherein the signal processing module is arranged for at least one of the following tasks:

preventing the user from falling into a deep sleep, so that the user remains in a shallow sleep,

turning off soothing sounds when the user falls from a shallow sleep into a deep sleep, and causing room temperature to be adjusted before providing the stimulation signal for awakening the user.

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15.   (Currently Amended) The mobile terminal of claim 1, wherein the at least one sleep characteristic is indicative of a transition from ~~REM~~ rapid eye movement to another sleep stage.

16.   (Currently Amended) The mobile terminal of claim 15, wherein the stimulation signal is provided only within a certain period after the transition from ~~REM~~ rapid eye movement.

17.   (Currently Amended) The mobile terminal of claim 1, wherein the at least one sleep characteristic is indicative of whether the user is in ~~REM~~ rapid eye movement.

18.   (Currently Amended) The mobile terminal of claim 17, wherein the stimulation signal is provided only in case the at least one sleep characteristic is indicative of ~~REM~~ rapid eye movement.

19.   (Original) The mobile terminal of claim 1, further comprising a user interface for setting a desired wake-up interval or an end point of said interval.

20.   (Currently Amended) An electronic monitor ~~for monitoring a sleeping person~~, comprising:
    at least one sensor responsive to at least one physiological manifestation that indicates a characteristic of sleep, the at least one sensor being for providing a sleep characterizing signal; and

a transmitter, responsive to the sleep characterizing signal, the transmitter being for providing a sleep descriptor signal to a terminal,

a receiver for receiving a stimulation signal, and

a stimulating unit,

wherein said at least one sensor is also responsive to a polling signal before the transmitter provides the sleep descriptor signal.

21. (Original) An electronic monitor according to claim 20, wherein said stimulating unit is a haptic stimulation device.

22. (Original) The electronic monitor of claim 20, wherein the at least one sensor includes at least part of a static charge sensitive bed.

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35. (Currently Amended) A system for bringing a user of a mobile terminal toward an awake state, comprising:

at least one sensor responsive to at least one physiological manifestation that indicates a characteristic of sleep, the at least one sensor being for providing a sleep characterizing signal;

a transmitter, responsive to the sleep characterizing signal, the transmitter being for providing a sleep descriptor signal to the mobile terminal;

a receiver at the mobile terminal for receiving the sleep descriptor signal; and

a signal processing module at the mobile terminal for processing said sleep descriptor signal,

wherein said signal processing module is arranged to provide, at least partly in response to the sleep descriptor signal, a stimulation signal indicative that the user a user should be stimulated toward the awake an awake state, and

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wherein the mobile terminal is also usable by the user in the awake state, for communication purposes, and

wherein the transmitter is configured to provide the sleep descriptor signal in response to a polling signal from the mobile terminal.

36.   (Currently Amended) A method ~~for determining when a user should be stimulated toward an awake state~~, comprising:

receiving a sleep descriptor signal indicative of at least one sleep characteristic of ~~the user~~ a user;

processing said sleep descriptor signal, and

providing, at least partly in response to the sleep descriptor signal, a stimulation signal for stimulating the user toward an awake state,

wherein the method is performed within a mobile terminal that is also usable for communication by the user in the awake state, and

wherein an incoming call is handled in such a manner as to prevent the user from being awakened, if the at least one sleep characteristic has indicated that the user is in a deep, and otherwise handling the incoming call in a different manner.

37.   (Currently Amended) A method, comprising:

receiving a sleep descriptor signal indicative of at least one sleep characteristic of a user;

processing said sleep descriptor signal, and

providing, at least partly in response to the sleep descriptor signal, a stimulation signal for stimulating the user toward an awake state,

wherein the method is performed within a mobile terminal that is also usable for communication by the user in the awake state ~~The method of claim 36~~,

further comprising ~~the step of~~ transmitting a polling signal before said receiving of the sleep descriptor.

38.   (Currently Amended) The method of <u>claim 37</u> ~~claim 36~~, <u>also</u> comprising:

determining on at least two instants in time whether the user is in ~~REM~~ <u>rapid eye movement</u> sleep or NREM rapid eye movement sleep on the basis of at least one of said received sleep descriptor signal,

storing determination information regarding an outcome of said determining ~~step~~,

detecting a transition from ~~REM~~ <u>rapid eye movement</u> rapid eye movement sleep to ~~NREM~~ <u>non-rapid eye movement</u> sleep based upon said determination information, and

providing said stimulation signal as a response to said detecting ~~step~~.

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43.   (Original) The method of claim 36, ~~further~~ <u>also</u> comprising ~~the step of~~ indicating to at least one other person whether the user is awake or in a deep sleep or a shallow sleep, based at least partly on the at least one sleep characteristic.

44.   (Currently Amended) <u>A method for determining when a user should be stimulated toward an awake state, comprising:</u>

<u>receiving a sleep descriptor signal indicative of at least one sleep characteristic of the user;</u>

<u>processing said sleep descriptor signal, and</u>

<u>providing, at least partly in response to the sleep descriptor signal, a stimulation signal,</u>

<u>wherein the method is performed within a mobile terminal that is also usable for communication by the user in the awake state</u> ~~The method of claim 36~~,

further comprising ~~the step of~~ providing to at least one other person an estimated time until the user will arrive at a suitable awakening point ~~from a deep sleep~~, based at least partly on the at least one sleep characteristic.

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47.   (Currently Amended) The method of <u>claim 37</u> ~~claim 36~~, wherein the processing ~~step~~ is for doing at least one of the following tasks:

preventing the user from falling into a deep sleep, so that the user remains in a shallow sleep,

turning off soothing sounds when the user falls from a shallow sleep into a deep sleep, and

causing room temperature to be adjusted before providing the stimulation signal for awakening the user.

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53.   (Original) A computer-readable medium, the medium being encoded with a software data structure for performing the method of claim 36.

54. (Currently Amended) ~~The computer-readable medium of claim 53, further comprising software for providing a polling signal before said receiving of the sleep descriptor~~ <u>A computer-readable medium, the medium being encoded with a software data structure for performing the method of claim 37</u>.

55. (Currently Amended) The computer-readable medium of claim 53, further comprising software for:

determining on at least two instants in time whether the user is in ~~REM~~ <u>rapid eye movement</u> sleep or ~~NREM~~ <u>non-rapid eye movement sleep</u> on the basis of at least one of said received sleep descriptor signal,

storing determination information regarding an outcome of said determining step,

detecting a transition from ~~REM~~ rapid eye movement sleep to ~~NREM~~ non-rapid eye movement sleep based upon said determination information, and

providing said stimulation signal as a response to said detecting step.

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63. (New) The method of claim 37, wherein the polling signal is for indicating that a sleep descriptor signal is expected, and the sleep descriptor signal is in response to the polling signal.

64. (New) A mobile terminal, comprising:

means for receiving a sleep descriptor signal indicative of at least one sleep characteristic of the user; and

means for processing said sleep descriptor signal,

wherein said means for processing is arranged to provide, at least partly in response to the sleep descriptor signal, a stimulation signal for stimulating a user toward an awake state,

wherein the mobile terminal is also configured for communication by the user in the awake state, and

wherein the mobile terminal is configured to handle an incoming call in such a manner as to prevent the user from being awakened, if the at least one sleep characteristic has indicated that the user is in a deep sleep, and otherwise to handle the incoming call in a different manner.

65. (New) The mobile terminal of claim 64, further means for indicating whether the user is awake or in a deep sleep or a shallow sleep, based at least partly on the at least one sleep characteristic.

66. (New) The system of claim 35, wherein the mobile terminal is also configured to handle an incoming call in such a manner as to prevent the user from being awakened, if the at least one sleep

characteristic has indicated that the user is in a deep sleep, and otherwise to handle the incoming call in a different manner.